

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

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### AIRDROP OF SUPPLIES AND EQUIPMENT

### **RIGGING 1/4-TON CARGO TRAILERS**

#### TABLE OF CONTENTS

			Paragraph	Page
CHAPTER	1.	INTRODUCTION		
		Scope	1-1	1-1
		Special Considerations	1-2	1-1
		Recommended Changes	1-3	1-1
	2.	RIGGING TRAILER		
		Description of Load	2-1	2-1
		Preparing Platform and Installing Suspension Slings	2-2	2-1
		Preparing Trailer	2-3	2-2
		Stowing Accompanying Load	2-4	2-3
		Positioning Honeycomb	2-5	2-7
		Positioning Trailer	2-6	2-8
		Installing Lashings	2-7	2-8
		Safetying Suspension Slings	2-8	2-9
		Stowing Cargo Parachute	2-9	2-9
		Installing Extraction System	2-10	2-9
		Installing Release System	2-11	2-10
		Positioning Extraction Parachute	2-12	2-10
		Marking Rigged Load	2-13	2-11
		Equipment Required	2-14	2-11
	3.	RIGGING TRAILER WITH LIGHTWEIGHT, EXPANDA	BLE TENT	
		Description of Load	3-1	3-1
		Preparing Platform and Installing Suspension Slings	3-2	3-1
		Preparing Trailer and Stowing Accompanying Load in Trailer	3-3	3-1
		Stowing Accompanying Load on the Platform	3-4	3-4
		Positioning Honeycomb Stacks	3-5	3-4
		Positioning Trailer	3-6	3-5
		Rigging Trailer	3-7	3-5
		Marking Rigged Load	3-8	3-6
		Equipment Required	3-9	3-6
		• •		

<sup>\*</sup>This manual supersedes FM 10-518/TO 13C7-3-371, 30 June 1977.

4.	RIGGING TRAILER WITH GROUND LASER LOCATOR DESIGNATOR		
	Description of Load	4-1	4-1
	Preparing Platform and Installing Suspension Slings	4-2	4-1
	Stowing and Lashing Accompanying Load	4-3	4-1
*	Preparing and Positioning Honeycomb Stacks	4-4	4-1
	Preparing Trailer and Stowing Accompanying Load in Trailer	4-5	4-1
	Positioning Trailer	4-6	4-5
	Rigging Trailer	4-7	4-5
	Marking Rigged Load	4-8	4-5
	Equipment Required	4-9	4-5
5.	RIGGING TRAILER WITH AN/MTC-10 TELEPHONE CONTROL OFFICE GROUP		
	Description of Load	5-1	5-1
	Preparing Platform and Installing Suspension Slings	5-2	5-1
	Preparing and Positioning Honeycomb	5-3	5-1
	Preparing Trailer and Telephone Office Control Group Equipment	5-4	5-1
	Positioning Trailer	5-5	5-11
	Installing Lashings	5-6	5-11
	Stowing Cargo Parachute	5-7	5-11
	Installing Extraction System	5-8	5-11
	Safetying Suspension Slings	5-9	5-11
	Installing Release System	5-10	5-11
	Positioning Extraction Parachute	5-11	5-11
	Marking Rigged Load	5-12	5-11
	Equipment Required	5-13	5-11
6.	RIGGING TRAILER WITH AN/MGC-34 TELETYPEWRITER		
	Description of Load	6-1	6-1
	Preparing Platform and Installing Suspension Slings	6-2	6-1
	Preparing and Positioning Honeycomb Stacks	6-3	6-1
	Preparing Trailer	6-4	6-1
	Positioning Trailer	6-5	6-7
	Installing Lashings	6-6 6-7	6-7
	Stowing Cargo Parachute		6-7
	Installing Extraction System	6-8 6-9	6-7
	Safetying Suspension Slings	6-9 6-10	6-7 6-8
	Installing Release System	6-11	6-8
	Positioning Extraction Parachute	6-11	6-8
	Marking Rigged Load		
	Equipment Required	6-13	6-9
APPENDIX	REFERENCES		A-1

Paragraph Page

### **ILLUSTRATIONS**

Figure		Page
2-1.	Platform prepared	2-1
2-2.	Aircraft emergency restraint system installed	2-2
2-3.	Trailer prepared and accompanying load stowed	2-3
2-4.	Binding lashings and honeycomb sheets positioned	2-4
2-5.	Front row of boxes secured	2-5
2-6.	Rear row of boxes secured	2-7
2-7.	Honeycomb stacks positioned	2-7
2-8.	Lashings installed	2-8
2-9.	Cargo parachute stowed and SL/CS extraction system installed	2-9
2-10.	Components of PEFTC installed	2-10
2-11.	Completely rigged load	2-11
3-1.	Preparing the trailer and stowing the accompanying load in the trailer	3-2
3-2.	Stowing the accompanying load on the platform	3-4
3-3.	Safetying suspension slings	3-5
4-1.	Preparing the trailer and stowing accompanying load in the trailer	4-2
4-2.	Stowing the accompanying load in the trailer	4-3
4-3.	Trailer prepared	4-4
5-1.	Platform prepared and suspension slings installed	5-2
5-2.	Trailer support, construction details	5-3
5-3.	Honeycomb positioned	5-4
5-4.	Preparing trailer and telephone office control group equipment	5-5
5-5.	Lashings installed	5-10
5-6.	Parachute stowage platform, construction details	5-12
5-7.	Stowage platform secured	5-13
5-8.	PEFTC installed and slings safetied	5-14
5-9.	Rigged load	5-15
6-1.	Preparing trailer	6-2
6-2.	Preparing teletypewriter equipment	6-4
6-3.	Teletypewriters positioned and secured	6-6
6-4.	Trailer prepared	6-7
6-5.	Rigged load	6-8

#### **CHAPTER 1**

#### INTRODUCTION

### 1-1. Scope

This manual specifies and illustrates the airdrop equipment and procedures necessary to prepare and rig 1/4-ton cargo trailers for airdrop from C-130 or C-141 aircraft.

### 1-2. Special Considerations

- a. This load may include dangerous materials such as explosives or gasoline. Dangerous materials must be packaged, marked, and labeled in compliance with AFM 71-4/TM 38-250.
- b. An additional layer of honeycomb is required on all loads dropped on drop zones with ground elevations between 6,000 and 10,000 feet.
- c. A copy of this manual should accompany the rigged load to the aircraft.

#### 1-3. Recommended Changes

You are encouraged to report any errors or omissions and suggest ways for making this a better manual. Army personnel, send your comments on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to:

Commandant
US Army Quartermaster School
ATTN: ATSM-TDT
Fort Lee, Virginia 23801

Air Force personnel, send your reports to AFTO Form 22 (Technical Order Publication Improvement Report). Send the reports through:

Headquarters Military Airlift Command (MAC/DOTX) Scott AFB, Illinois 62225 to:

Commandant
US Army Quartermaster School
ATTN: ATSM/TDT
Fort Lee, Virginia 23801

Also send info copies of AFTO Form 22 to:

San Antonio ALC/MMEDTR Kelly AFB, Texas 78241





# CHAPTER 2 RIGGING TRAILER

### 2-1. Description of Load

The M416, 1/4-ton cargo trailer and accompanying load are rigged on an 8-foot modular platform with one G-11A or one G-11B cargo parachute. The M416 trailer, illustrated in this manual, weighs 570 pounds. It is 109 inches long, 61 inches wide, and 44 inches high. When an M100 trailer is to be dropped, rigging procedures are the same as stated herein. The M100 trailer weighs 570 pounds. It is 109 inches long, 56 inches wide, and 42 inches high.

## 2-2. Preparing Platform and Installing Suspension Slings

Prepare an 8-foot modular platform (fig 2-1) as follows:

a. Inspecting Platform. Inspect, or assemble and inspect, the modular platform according to the procedures outlined in TM 10-1670-208-20&P/TO 13C3-4-12.

- b. Installing Suspension Slings. Form suspension slings with four 3-foot slings and four 8-foot slings (2-loop). Pass a 3-foot sling through the loop of an 8-foot sling. Place a tiedown clevis in each end of the 3-foot sling and attach the clevises to the platform. Repeat procedure for the remaining slings. Starting at the front of each rail, attach clevises to the 3d and 6th clevis holes for the front slings and to the 12th and 15th clevis holes for the rear slings. Tape the loop of one 8-foot sling to the center of 3-foot sling (fig 2-1).
- c. Attaching and Numbering Clevises. Starting at the front of each rail, attach a load tiedown clevis to the 1st, 2d, 5th, 7th, 13th, 14th, and 16th clevis holes of each rail. Again starting at the front of platform, number the clevises attached to the right rail 1 through 11 and those attached to the left rail 1A through 11A.
- d. Positioning Load Spreader. Position load spreader on the platform as shown in figure 2-1.

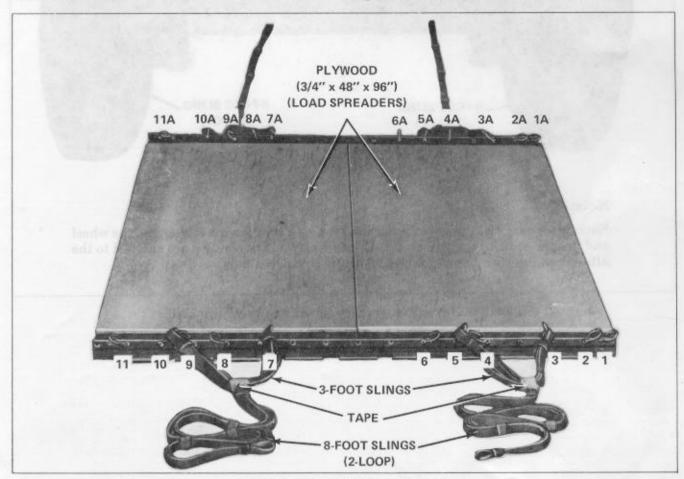
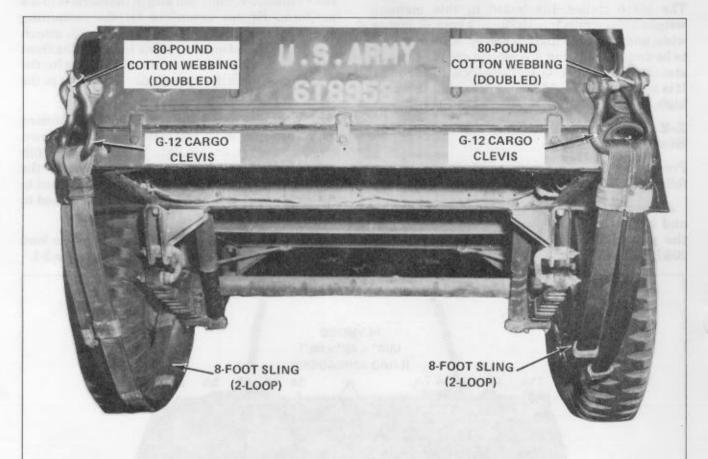


Figure 2-1. Platform prepared.

### 2-3. Preparing Trailer

- a. Installing Aircraft Emergency Restraint System. Install the aircraft emergency restraint system as shown in figure 2-2.
- b. Preparing Trailer Drawbar. Fold the intervehicular cable, and tape the cable and safety chains to the drawbar (fig 2-3). Secure the handbrake lever in unlocked position to the front paulin hook with tape.



#### Note:

Each 8-foot sling (2-loop) is passed around the axle between the spring and the wheel and has its end loops placed on a G-12 cargo clevis. The clevises are safetied to the lifting handles with ties of doubled 80-pound cotton webbing.

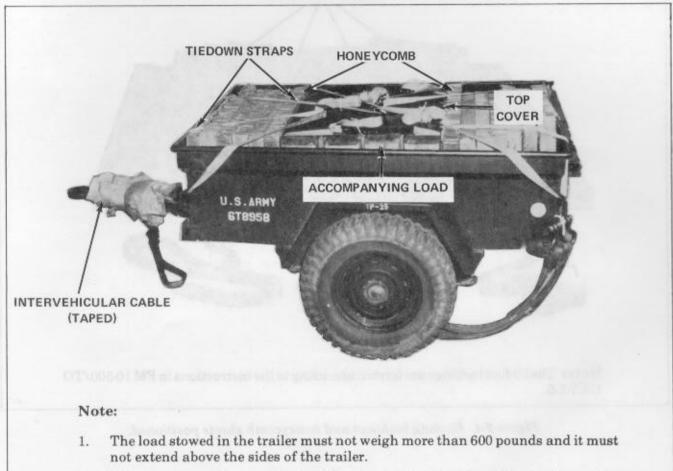
Figure 2-2. Aircraft emergency restraint system installed.

### 2-4. Stowing Accompanying Load

Caution: Only ammunition authorized by FM 10-553/TO 13C7-18-41 may be air-dropped. The illustrated accompanying load contains ammunition and must be packaged, marked, and labeled in compliance with AFM 71-4/TM 38-250.

The accompanying load must meet the restrictions outlined in FM 10-500/TO 13C7-1-5. For the C-130 aircraft, the minimum allowable weight of the accompanying load is 1,088 pounds and the maximum is 2,318 pounds. For the C-130 aircraft and platform extracted loads from the C-141 aircraft the minimum allowable accompanying load is 1,088 pounds and the maximum is 2,318 pounds. For item extracted from a C-141 aircraft the minimum allowable accompanying load is 2,068 pounds and the maximum is 2,318.

a. Stowing Load in Trailer. Stow part of the accompanying load and the trailer's cover in the trailer as shown in figure 2-3.



- Honeycomb must be used to level the load with the sides of the trailer and to prevent the load from shifting.
- 3. The trailer's top cover is folded and placed on top of the load.

Figure 2-3. Trailer prepared and accompanying load stowed.

- b. Stowing Load on Platform. Stow a typical accompanying load of 14 boxes of 105-mm ammunition on the platform as follows:
- (1) Position honeycomb sheets and 30-foot tiedown straps (binding lashings) on the load spreader as shown in figure 2-4.
- (2) Position seven boxes of 105-mm ammunition on front pieces of honeycomb. Bind the boxes with two of the previously positioned binding lashings. Secure the lashings with two load binders and four heavy-duty D-rings. Note: Binders must be placed so that they cannot interfere with the positioning of the honeycomb stacks.

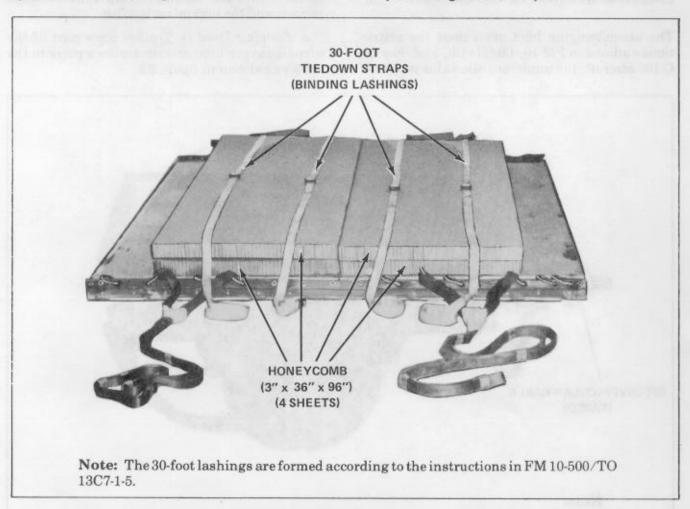


Figure 2-4. Binding lashings and honeycomb sheets positioned.

- (3) Use five 15-foot tiedown straps, five heavyduty D-rings, three load binders, and secure the boxes to the platform (fig 2-5) as follows:
- (a) Form a 30-foot tiedown strap according to FM 10-500/TO 13C7-1-5. Position D-rings at front end of the boxes and center of the platform.

Pass free ends of the strap through the front handles of the boxes, through tiedown clevises 4 and 4A, and back through the front handles of the boxes to center of the platform. Secure ends of the strap with two heavy-duty D-rings and a load binder.

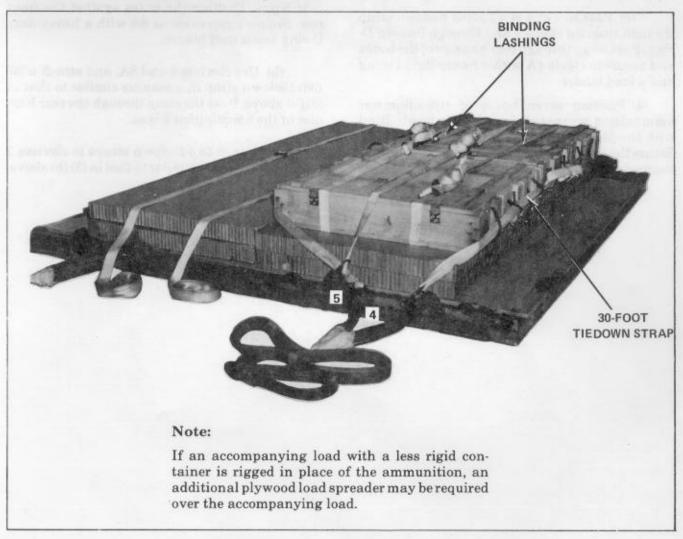


Figure 2-5. Front row of boxes secured.

- (b) Pass the free end of a 15-foot tiedown strap through tiedown clevis 5, through its own D-ring, and over top of the boxes to center of the platform. Attach another tiedown strap to clevis 5A in a similar manner. Secure the ends of straps with two heavy-duty D-rings and a load binder on top of the boxes.
- (c) Pass free end of a 15-foot tiedown strap through tiedown clevis 4 and through its own Dring. Pass strap through rear handles of the boxes and secure to clevis 4A with a heavy-duty D-ring and a load binder.
- (4) Position seven boxes of 105-millimeter ammunition on rear pieces of honeycomb. Bind with the previously positioned binding lashings. Secure the lashings with two load binders and four heavy-duty D-rings.

- (5) Use five 15-foot tiedown straps, five heavyduty D-rings, and three load binders, and secure the boxes to the platform (fig 2-6) as follows:
- (a) Pass free end of a 15-foot tiedown strap through tiedown clevis 8 and through its own Dring. Pass strap through the front handles of the rear boxes. Position the boxes against the front row. Secure strap to clevis 8A with a heavy-duty D-ring and a load binder.
- (b) Use clevises 8 and 8A, and attach a 30-foot tiedown strap in a manner similar to that in (3) (a) above. Pass the strap through the rear handles of the ammunition boxes.
- (c) Attach two tiedown straps to clevises 7 and 7A in a manner similar to that in (3) (b) above.

### 2-5. Positioning Honeycomb

Position the honeycomb stacks on the ammunition as shown in figure 2-7.

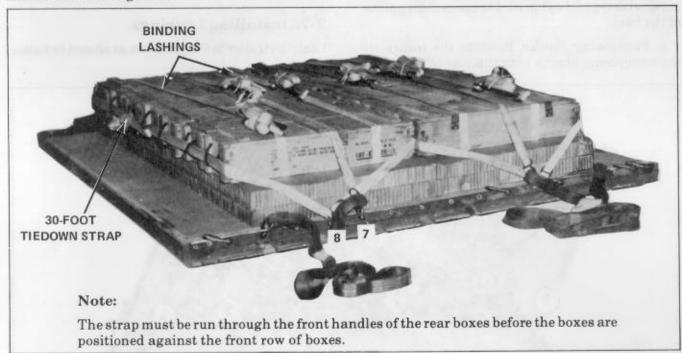
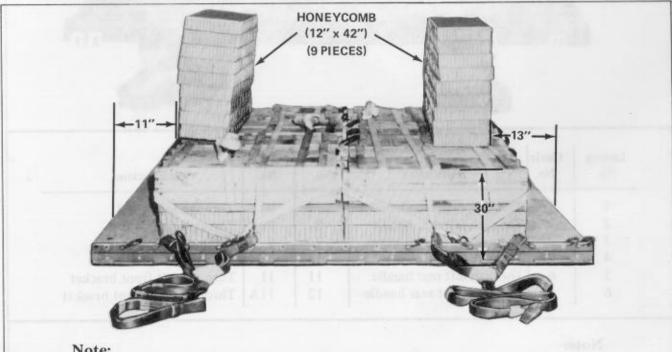


Figure 2-6. Rear row of boxes secured.



#### Note:

- Layers of honeycomb must be pasted together.
- When load is rigged for drop on a drop zone with a ground elevation between 6,000 and 10,000 feet, an additional layer of honeycomb is required on each stack. The additional layer will increase the height of the load by 3 inches.

Figure 2-7. Honeycomb stacks positioned.

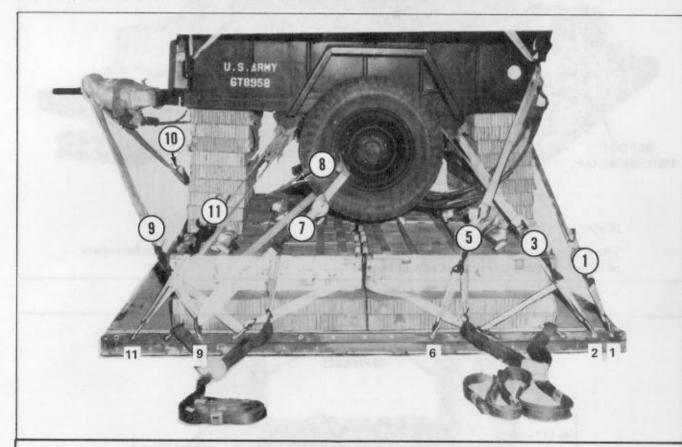
### 2-6. Positioning Trailer

- a. Installing Load Cover. Cover the trailer with a 2-yard piece of cotton duck cloth. Secure the cover with type III nylon cord to convenient points of the load.
- b. Positioning Trailer. Position the trailer on the honeycomb stacks with the rear of trailer 13

inches from the front edge of platform. Raise and lock the support leg. Secure it in place with type III nylon cord.

### 2-7. Installing Lashings

Lash the trailer to the platform as shown in figure 2-8.



Lashing No.	Clevis No.	Instructions	Lashing No.	Clevis No.	Instructions
1	1	Through right rear handle	7	9	Through left wheel
2	1A	Through left rear handle	8	9A	Through right wheel
3	2	Through left rear bracket	9	9	Around lunette shaft
4	2A	Through right rear bracket	10	9A	Around lunette shaft
5	6	Through left rear handle	11	11	Through left front bracket
6	6A	Through right rear handle	12	11A	Through right front bracket

#### Note:

- The lashings must not be so tight that they cause the platform to bow.
- All sharp edges that may come into contact with the lashings must be padded.
   The padding must not be allowed to slip when tension is applied to the lashings.

Figure 2-8. Lashings installed.

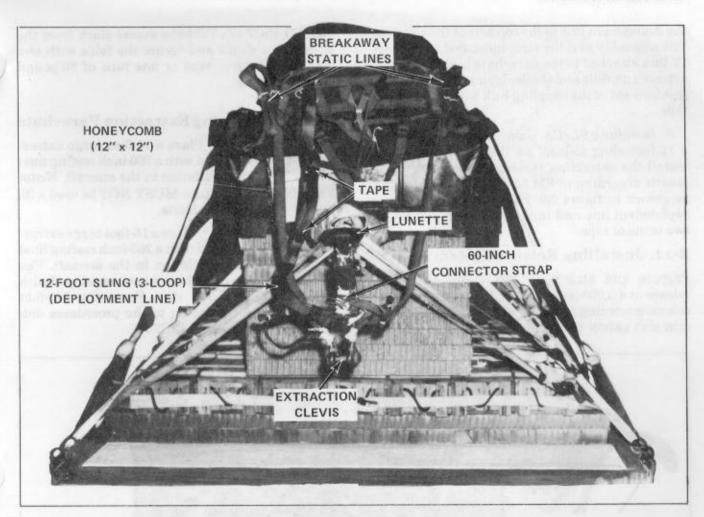


Figure 2-9. Cargo parachute stowed and SL/CS extraction system installed.

### 2-8. Safetying Suspension Slings

Using two lengths of type III nylon cord, secure the suspension slings. Tie one length of cord to the right front 3-foot suspension sling, pass the cord over the trailer, and tie the free end to the left rear 3-foot suspension sling. Tie the second length of cord to the remaining 3-foot slings in a similar manner.

### 2-9. Stowing Cargo Parachute

a. Safetying Honeycomb Over Brake Handle. Place a 3- by 12- by 12-inch piece of honeycomb over the brake handle and tape the honeycomb to the front end of the trailer. Using a length of type III nylon cord, secure the honeycomb to the trailer as shown in figure 2-9.

b. Stowing Cargo Parachute. Prepare and stow one G-11A or one G-11B cargo parachute according to the procedures in FM 10-500/TO 13C7-1-5. Position the parachute on the trailer as shown in figure 2-9. Using single lengths of type III nylon cord, safety the four carrying handles of parachute to convenient points on the load.

### 2-10. Installing Extraction System

Currently, two extraction systems are authorized for use when this load is rigged. These systems are the extraction force transfer coupling (platform) (hereafter referred to as PEFTC) and the static line/connector strap (hereafter referred to as SL/CS). Procedures for installation are provided for both systems as follows:

a. Installing PEFTC. Using a 36-foot extraction bridle, a 16-foot (3-loop) sling as a deployment line, four support brackets, and four guidance tubes, install the components of the PEFTC (fig 2-10) as outlined in FM 10-500/TO 13C7-1-5. Attach the support brackets to the 10th and 17th clevis holes in each platform rail. Use the "A" mounting holes in the actuators when attaching them to the rails in the 8th and 9th clevis holes. Attach one end of

the deployment line to the top bolt of the coupling link assembly and the remaining end to the type IV link attached to the parachute bridle. Tape the extraction bridle and the deployment line together just forward of the coupling link with two turns of tape.

b. Installing SL/CS. Using a 60-inch strap and a 12-foot sling (3-loop) as the deployment line, install the extraction system components to the lunette according to FM 10-500/TO 13C7-1-5 and as shown in figure 2-9. Fold the slack from the deployment line and tape the folds in place with two turns of tape.

### 2-11. Installing Release System

Prepare and attach an M-1 cargo parachute release or a 5,000-pound capacity cargo parachute release according to FM 10-500/TO 13C7-1-5. Position and safety the release according to FM 10-

500/TO 13C7-1-5. Fold the excess slack from the suspension slings and secure the folds with two turns of adhesive tape or one turn of 80-pound cotton webbing.

### 2-12. Positioning Extraction Parachute

- a. C-130 Aircraft. Place a 15-foot cargo extraction parachute (reefed with a 260-inch reefing line) on the load for installation in the aircraft. **Note:** The 5,000-pound release MUST NOT be used with the G-11B cargo parachute.
- b. C-141A Aircraft. Place a 15-foot cargo extraction parachute (reefed with a 260-inch reefing line) on the load for installation in the aircraft. The cargo extraction parachute must be equipped with a 120-foot extraction line. Form the 120-foot extraction line according to the procedures outlined in FM 10-500/TO 13C7-1-5.

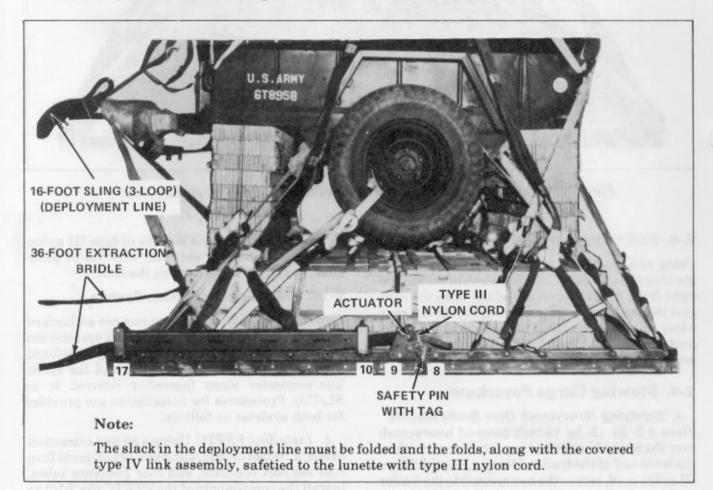


Figure 2-10. Components of PEFTC installed.

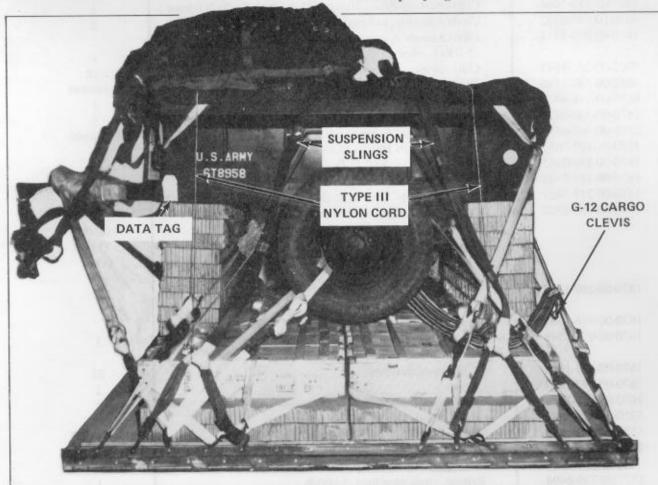
### 2-13. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5 and as shown in figure 2-11. If the accompanying load is varied, the weight, the height, and the center of gravity must be computed. Retie the cargo suspension clevises of the emergency restraint system to lashing 1 and 1A

with a tie of doubled 80-pound cotton webbing. The right clevis is shown in figure 2-11.

### 2-14. Equipment Required

The equipment required for rigging this load is listed in table 2-1. The equipment listed does not include the equipment required for stowing an accompanying load.



RIGGED LOAD DATA			
	M-416	M-100	
Weight:	3,600 pounds	3,600 pounds	
*Height:	83 inches	81 inches	
Width:	108 inches	108 inches	
Length:	123 inches	123 inches	
Overhang: Rear	27 inches	27 inches	
Center of Balance:			
From front edge of platform	52 inches	45 inches	
Extraction System: 60-inch SL/CS (shown)			

\*When the load is rigged for drop zone with a ground elevation between 6,000 and 10,000 feet, an additional layer of honeycomb is required which will increase the height by 3 inches.

Figure 2-11. Completely rigged load.

Table 2-1. Equipment Required

National Stock No.	Item	Quantity
1670-00-040-8196	Adapter, web 36-in (For C-141B)	1
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1377-00-958-1048	Cartridge, time-delay, 20-second (Use with 5,000-lb release.)	1
4030-00-678-8562	Clevis Assembly, suspension, cargo, G-12	2
1670-00-090-5354	Clevis Assembly, suspension, large (Add one with 5,000-lb release.)	1
3305-00-242-3593	Cloth, cotton duck, 60-in	2 yd
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-168-6068	*Coupling, extraction force transfer (platform)	As required
1670-00-168-008	Cover, link (Add one for C-141)	1
8135-00-664-6958	Cushioning Material, packaging, cellulose wadding	As required
1670-01-107-7652	Line, extraction 160-ft (1-loop) (for C-141B)	1
1670-00-856-0265	Line, extraction, 60-ft (1-loop) (for C-141A)	1
1670-00-783-5988	Link Assembly, single, type IV (Add one for C-141)	1
1670-00-217-2421	Link, connector, L-bar type (for C-141A)	2
1670-00-753-3928	Pad, energy-dissipating honeycomb,	
	36- by 96-in:	8 sheets
	12- by 12-in	(1)
	12- by 42-in (Add two for high-elevation drop zone)	(18)
	36- by 96-in	(4)
1670-00-269-1107	Parachute, cargo, 100-ft, G-11A	1
	or	
1670-00-016-7841	Parachute, cargo, G-11B	
1670-00-052-1548	**Parachute, cargo extraction, 15-ft	1
	Platform, A/D, modular, 8-ft:	
1670-00-893-1631	Clevis, load tiedown	22
1670-00-893-1624	Panel	2
1670-00-893-1626	Rail, platform side, 8-ft	2
5320-00-893-1632	Rivet, blind-drive type, 1/4-in diam	32
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in (load spreader)	2
1670-00-168-6070	Release, cargo parachute, M-1	
	or	_
1377-00-799-8494	Release, cargo parachute, 5,000-lb	1
1.670.00.756.2500	Sling, cargo, A/D:	_
1670-00-753-3788	3-ft (3-loop) (Add one for 5,000-lb release.)	4
1670-00-753-3790	9-ft (2-loop)	6

Table 2-1. (Continued)

National Stock No.	Item	Quantity	
7510-00-266-5016	Tape, adhesive, 2-in	As required	
1670-00-937-0271	Tiedown Assembly, 15-ft	12	
No NSN	Web adapter (See FM 10-500/TO 13C7-1-5.)	1	
8305-00-268-2411	Webbing, cotton, 80-lb	As required	
*When this item is not a	available, the following items are required for the SL/CS:	•	
	available, the following items are required for the SL/CS:  Clevis Assembly, suspension, large	·   1	
*When this item is not a 1670-00-090-5354 1670-00-823-5041	Clevis Assembly, suspension, large	1 1	
1670-00-090-5354		1 1	
1670-00-090-5354 1670-00-823-5041	Clevis Assembly, suspension, large Deployment Line, 12-ft (3-loop)	1 1 2	

<sup>\*\*</sup>When 15-foot parachute is used with a C-141B the extraction line issued with the parachute must be removed. A 36-inch adapter web, a continuous 160-ft, 1-loop, type XXVI nylon webbing extraction line, and a type IV link are needed. Connect the line to the adapter web with the link. DO NOT use shorter lines to form a 160-foot line.

#### **CHAPTER 3**

#### RIGGING TRAILER WITH LIGHTWEIGHT, EXPANDABLE TENT

### 3-1. Description of Load

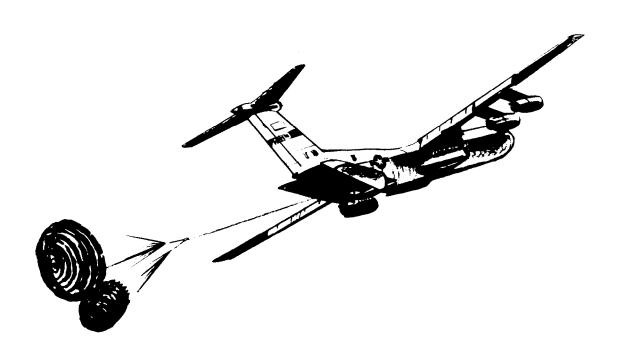
The M416 trailer with tent, 16-foot by 16-foot, and accompanying load are rigged on an 8-foot modular platform. The load requires either one G-11A or one G-11B cargo parachute. The five cases of rations, end and intermediate section of the tent, camouflage net with poles, tent pins in a dufflebag, shovel, and hammer are stowed in the trailer. The items stowed in the trailer weigh 495 pounds. The arch, purlin, and header assemblies for the tent weigh 210 pounds and are stowed on the platform.

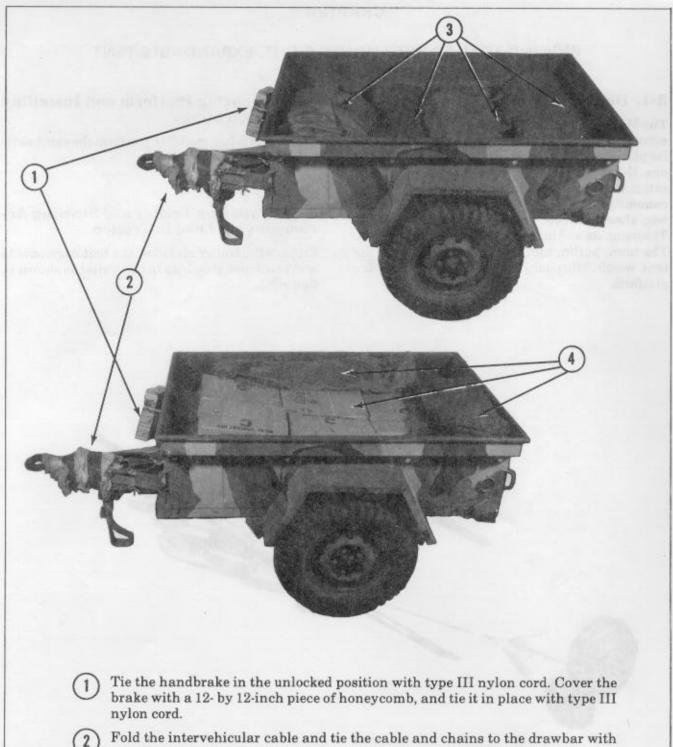
## 3-2. Preparing Platform and Installing Suspension Slings

Prepare an 8-foot modular platform the same as in chapter 2, paragraph 2-2.

# 3-3. Preparing Trailer and Stowing Accompanying Load in Trailer

Prepare the trailer and stow the tent components and accompanying load in the trailer as shown in figure 3-1.





- type III nylon cord. Pad the drawbar with cellulose wadding, and tape it.
- Set camouflage net and canvas component of the tent in the bed of the trailer.
- Set five cases of rations, camouflage net poles, and dufflebag with tent pins on the tent.

Figure 3-1. Preparing the trailer and stowing the accompanying load in the trailer.



Figure 3-1. Preparing the trailer and stowing the accompanying load in the trailer (continued).

## 3-4. Stowing Accompanying Load on the Platform

Lash the accompanying load the same as in paragraph 2-4, and as shown in figure 3-2.

### 3-5. Positioning Honeycomb Stacks

Prepare and place honeycomb stacks as shown in paragraph 2-5.

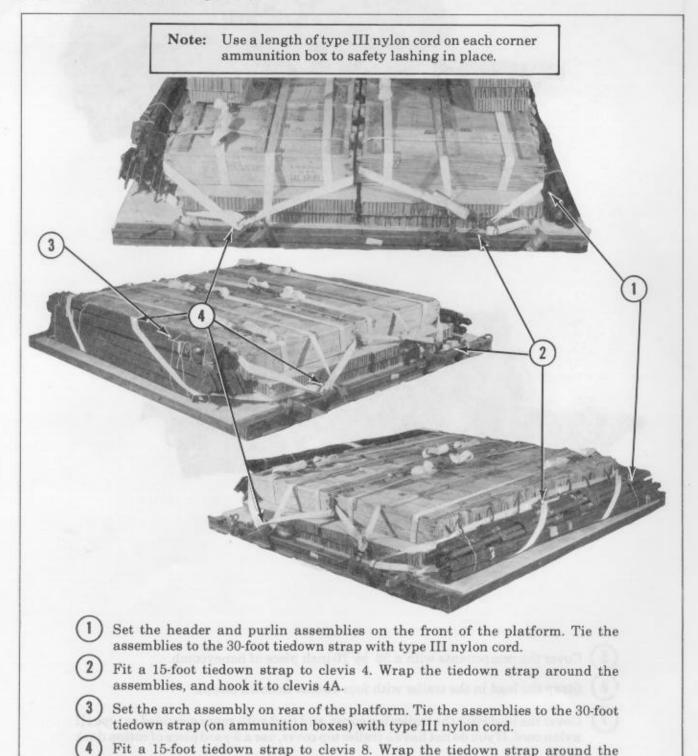


Figure 3-2. Stowing the accompanying load on the platform.

assemblies, and hook it to clevis 8A.

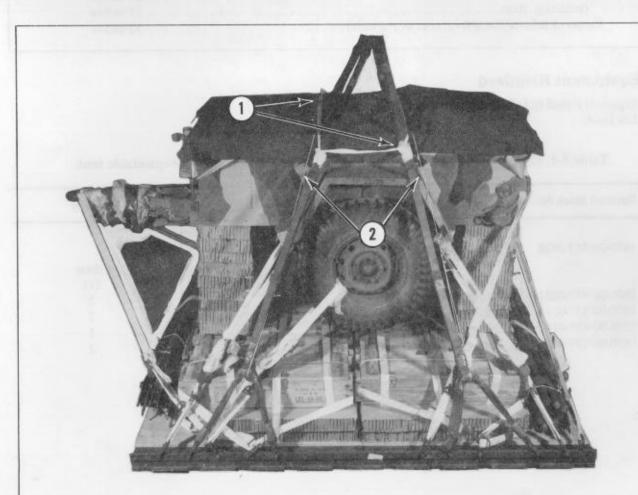
### 3-6. Positioning Trailer

Position trailer as in paragraph 2-6.

### 3-7. Rigging Trailer

 Install the lashings as shown in paragraph 2-8.

- b. Safety suspension slings as shown in figure 3-3.
- c. Finish rigging the trailer the same as in paragraphs 2-8 through 2-13.



- Use two lengths of 1/2-inch tubular nylon webbing to tie the 8-foot slings. Make a tie 4 inches below the top edge of the trailer, and encircle each sling.
- 2 Use two lengths of type III nylon cord to tie the 3-foot slings. Tie one length of cord to the right front 3-foot suspension sling, pass the cord over the trailer, and tie the free end to the left rear 3-foot suspension sling. Tie the second length of cord to the remaining 3-foot slings in a similar manner.

Figure 3-3. Safetying suspension slings.

## 3-8. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5, using the following data:

Veight	3,730 pounds
leight	· · · · · · · · 83 inches
Vidth	
ength	
	· · · · · · · · · · · · · · · · · · ·
enter of Balance (from front edge of platform)	

## 3-9. Equipment Required

The equipment listed in tables 2-1 and 3-1 are used to rig this load.

Table 3-1. Equipment required to rig the trailer with the lightweight, expandable tent.

National Stock No.	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating honeycomb, 3- by 36- by 96-in 36- by 70-in	1 sheet (1)
1670-00-937-0271	Tiedown Assembly, 10,000-lb	2
1670-00-937-0272	Binder, load	2
5365-00-937-0147	D-ring, 10,000-lb	2
1670-00-937-0273	Strap, 15-ft	2

#### **CHAPTER 4**

### RIGGING TRAILER WITH GROUND LASER LOCATOR DESIGNATOR

### 4-1. Description of Load

The M416 trailer with the Ground Laser Locator Designator (GLLD) and the accompanying load of 16 boxes of 105-millimeter ammunition (2 boxes in the trailer and 14 boxes on the platform) are rigged on an 8-foot modular platform. The load needs either one G-11A or one G-11B cargo parachute. The designator components are the tripod, night vision sight, laser designator in backpack, batteries, traversing unit 02 batteries, vehicle power conditioner, night vision sight battery, cables, and collumator. The accompanying load must weigh 430 pounds.

## 4-2. Preparing Platform and Installing Suspension Slings

Prepare an 8-foot modular platform the same as in chapter 2.

## 4-3. Stowing and Lashing Accompanying Load

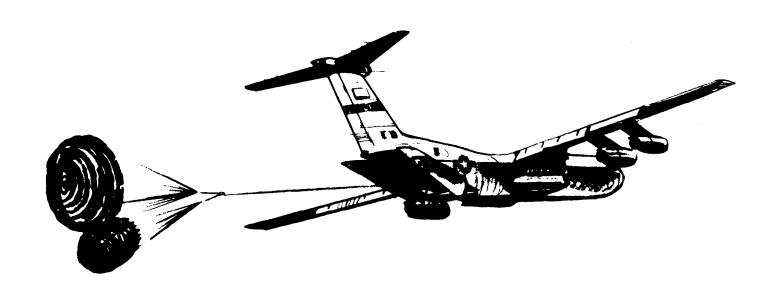
Stow the accompanying load and lash it as in chapter 2.

## 4-4. Preparing and Positioning Honeycomb Stacks

Prepare and position honeycomb stacks as shown in chapter 2.

# 4-5. Preparing Trailer and Stowing Accompanying Load in Trailer

- a. Prepare the trailer as shown in figure 4-1 and 4-3.
- b. Stow the locator designator component and accompanying load in the trailer as shown in figure 4-2.



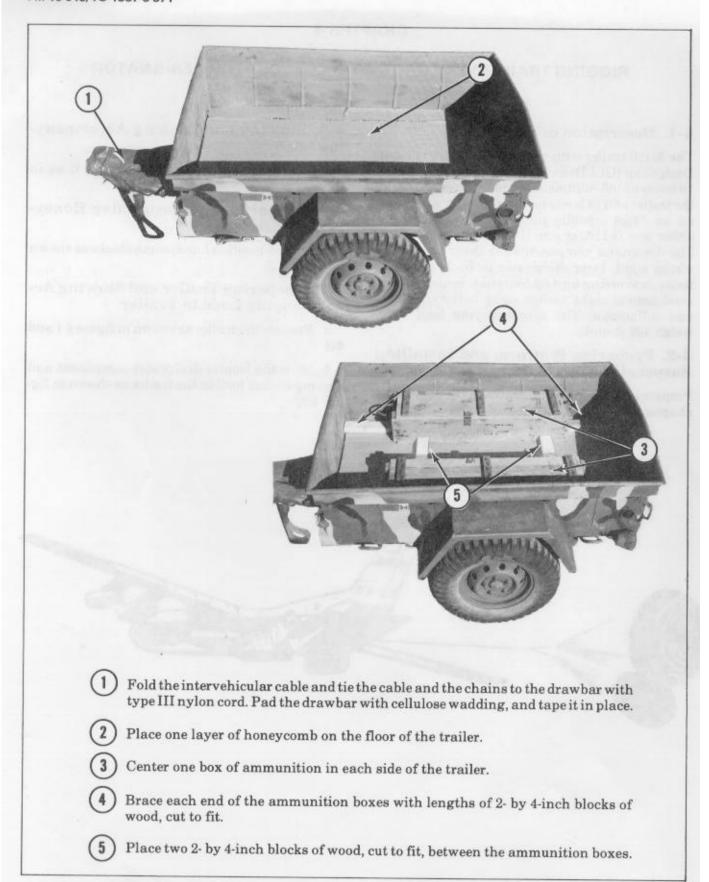


Figure 4-1. Preparing the trailer and stowing accompanying load in the trailer.

1 Remove the laser designator from the backpack. Place a layer of 1/2-inch felt on the bottom and four sides of the backpack. Replace the laser designator in the backpack.

Push a 6- by 6-inch piece of honeycomb down on the tripod control

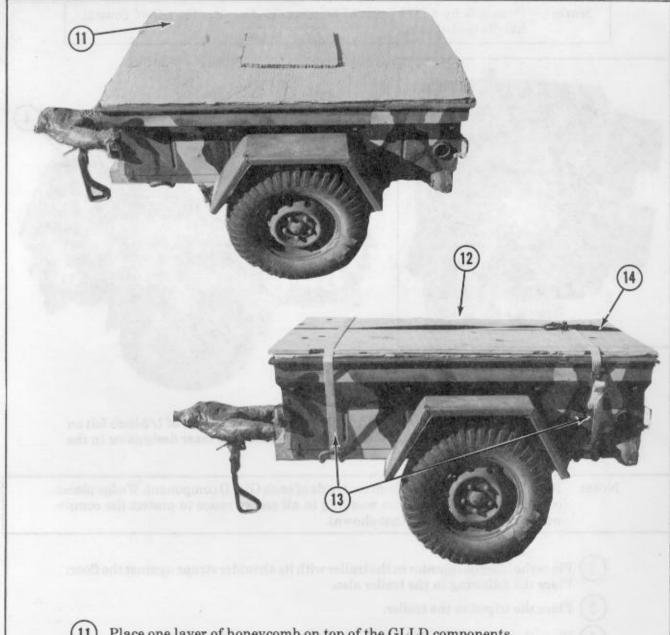
Note: Place 1/2-inch pieces of felt on each side of each GLLD component. Wedge pieces of honeycomb and cellulose wadding in all empty space to protect the components and level the load (not shown).

- Place the laser designator in the trailer with its shoulder straps against the floor. Place the following in the trailer also.
- (3) Place the tripod in the trailer.

Note:

- 4 Place the night vision sight in the trailer.
- 5 Place the batteries in the trailer.
- (6) Place the traversing unit 02 batteries in the trailer.
- 7 Place the vehicle power conditioner in the trailer.
- (8) Place the night vision sight battery in the trailer.
- 9 Place the cables in the trailer.
- (10) Place the collumator in the trailer.

Figure 4-2. Stowing the accompanying load in the trailer.



- Place one layer of honeycomb on top of the GLLD components.
- Place a 3/4- by 48- by 74-inch piece of plywood on top of the honeycomb.
- Run two 15-foot tiedown straps around the trailer, and bind the ends on the side of the trailer.
- Tie a length of 1-inch tubular nylon to the front center paulin hook, pass it over the plywood, and tie it to the rear center paulin hook.

Figure 4-3. Trailer prepared.

### 4-6. Positioning Trailer

Position the trailer on the honeycomb stacks with the rear of trailer 13 inches from the front edge of platform. Raise and lock the support leg. Tie it in place with type II nylon cord.

### 4-7. Rigging Trailer

- a. Lash the trailer to the platform as shown in figure 2-8.
- b. Finish rigging the trailer the same as shown in paragraphs 2-8 through 2-14.

### 4-8. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5, using the following data:

Weight	3,475 pounds
Height	
Width	
Length	123 inches
Overhang: Rear	
Center of Balance (from front edge of platform)	
Extraction System	

## 4-9. Equipment Required

The equipment listed in tables 2-1 and 4-1 are used to rig this load.

Table 4-1. Equipment required for rigging the trailer with ground laser locator designator.

National Stock No.	Item	Quantity
5510-00-197-2980	Lumber, 2- by 4-inches	1
1670-00-753-3928	Pad, energy-dissipating honeycomb,	
10/0 00 / 10 0/ 20	3- by 36- by 96-in	3 sheets
	11- by 11-in	(8)
5330-00-128-4981	Plywood, 3/4- by 48- by 96-in	2 sheets
	12- by 12-in	(4)
	48- by 74-in	(1)
1670-00-937-0271	Tiedown Assembly, 10,000-lb	2
1670-00-937-0272	Binder, Load	2
5365-00-937-0147	D-ring, 10,000-lb	2
1670-00-937-0273	Strap, 15-ft	2

#### **CHAPTER 5**

# RIGGING TRAILER WITH AN/MTC-10 TELEPHONE CONTROL OFFICE GROUP

#### 5-1. Description of Load

The M416 trailer with the AN/MTC-10 telephone control office group is rigged on an 8-foot modular platform. The load requires either one G-11A or one G-11B cargo parachute. The trailer with the AN/MTC-10 weighs 1,755 pounds. It is 129 inches long, 59 inches wide, and 80 inches high.

## 5-2. Preparing Platform and Installing Suspension Slings

Prepare an 8-foot modular platform as follows:

- a. Inspecting Platform. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-208-20&P/TO 13C3-4-12.
- b. Attaching Suspension Slings. Attach four 3-foot (3-loop) slings and four 12-foot (3-loop) slings to the platform as shown in figure 5-1.

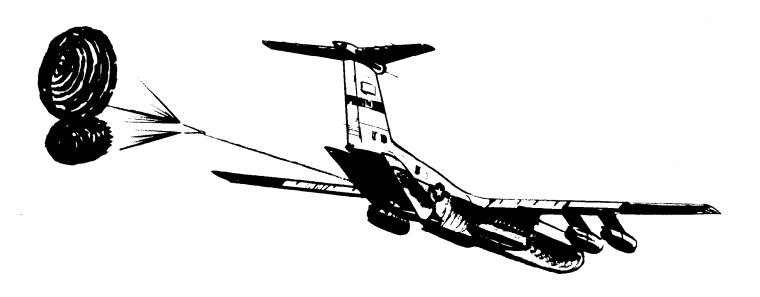
- c. Attaching and Numbering Clevises. Attach and number 14 load tiedown clevises as shown in figure 5-1.
- d. Positioning Load Spreaders. Position 3/4- by 48- by 96-in plywood as load spreaders on the platform as shown in figure 5-1.

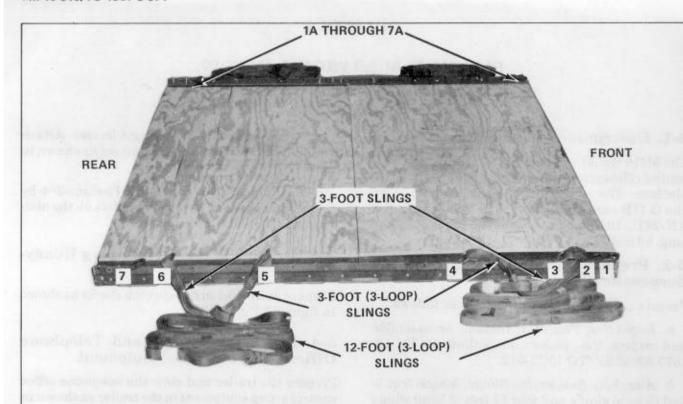
## 5-3. Preparing and Positioning Honeycomb

Prepare and position honeycomb stacks as shown in figures 5-2 and 5-3.

## 5-4. Preparing Trailer and Telephone Office Control Group Equipment

Prepare the trailer and stow the telephone office control group equipment in the trailer as shown in figure 5-4.





- Pass a 3-foot (3-loop) sling through the loop of each 12-foot (3-loop) sling. Fit a tiedown clevis on both ends of each 3-foot sling, and pull the keepers on the 12-foot sling tight against the 3-foot slings. Bolt the tiedown clevises to the 3d and 6th clevis holes (counting from the front of the platform) in each rail for the front slings and to the 12th and 15th clevis holes for the rear slings.
- 2 Start at the front of each rail and bolt a tiedown clevis to the 1st, 2d, 3d, 6th, 12th, 15th, and 16th holes. Start at the front of the platform and number the clevises bolted to the right rail 1 to 7 and those bolted to the left rail 1A to 7A.

Figure 5-1. Platform prepared and suspension slings installed.

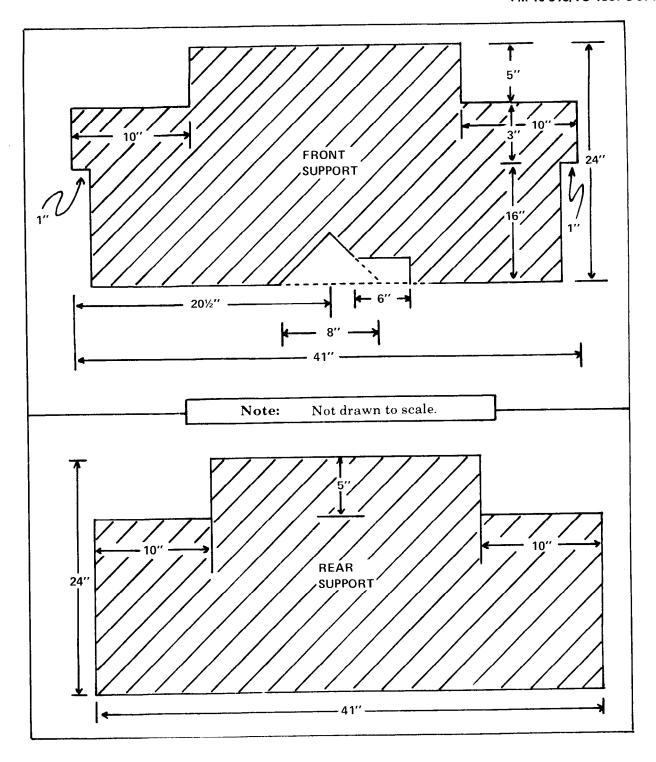
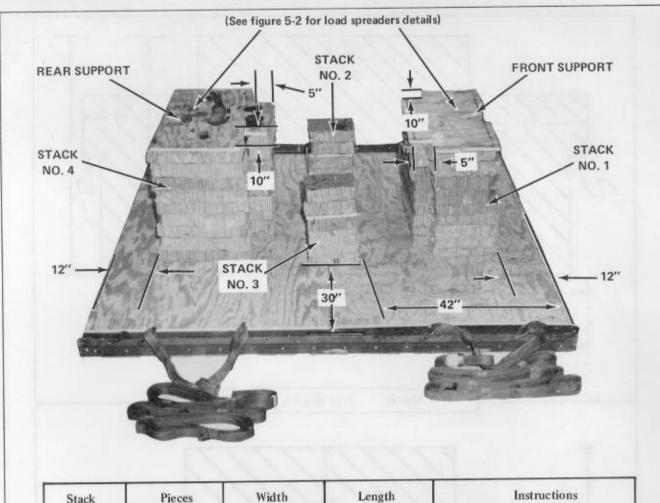
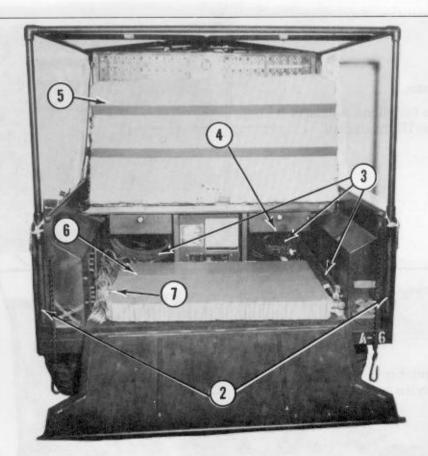


Figure 5-2. Trailer support, construction details.



Stack No.	Pieces	Width (inches)	Length (inches)	Instructions
1	9 1	41 41	24 24	Center left to right. Set front trailer support on stack.
2 and 3	6	8 8	12 12	(Each stack) 3/4-inch plywood between 2d and 3d layers.
4	9	41 41	24 24	Center left to right. Set rear support on stack.

Figure 5-3. Honeycomb positioned.



- (1) Remove top cover and operational light. Note: These items will be stowed later.
- 2 Lower the top frame to the traveling position.
- Place extension cords, gas line, power cable, extra hook cable, and JB-1770 under right and left rear drawers. Place grounding rods and tent posts on floor under right drawer.
- 4 Place hammer and brush in right drawer.
- 5 Place a 24- by 48-inch piece of honeycomb against switchboard, and tape it in place.
- 6 Place a 28- by 36-inch piece of honeycomb on the floor of the trailer.
- (7) Stow tent lines (ropes) in a convenient location in the trailer.

Figure 5-4. Preparing trailer and telephone office control group equipment.

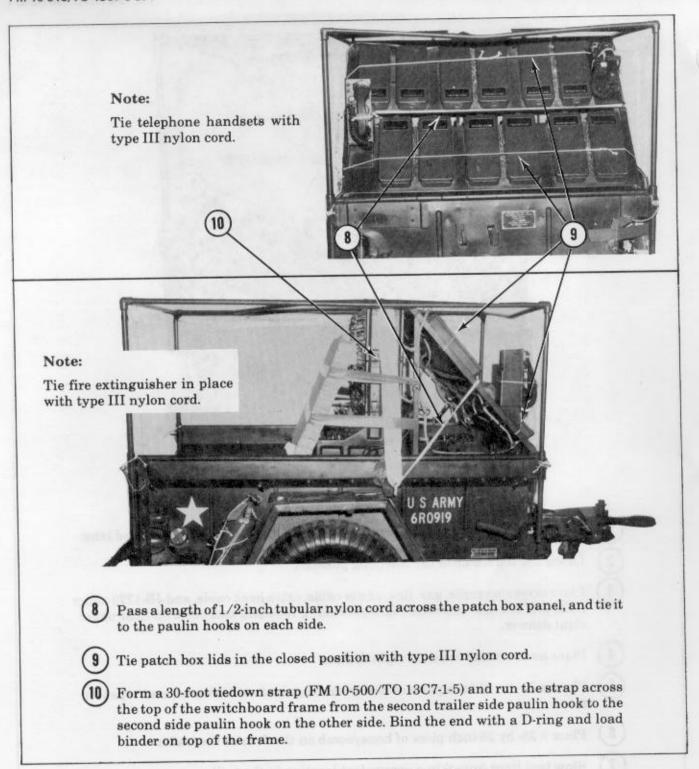
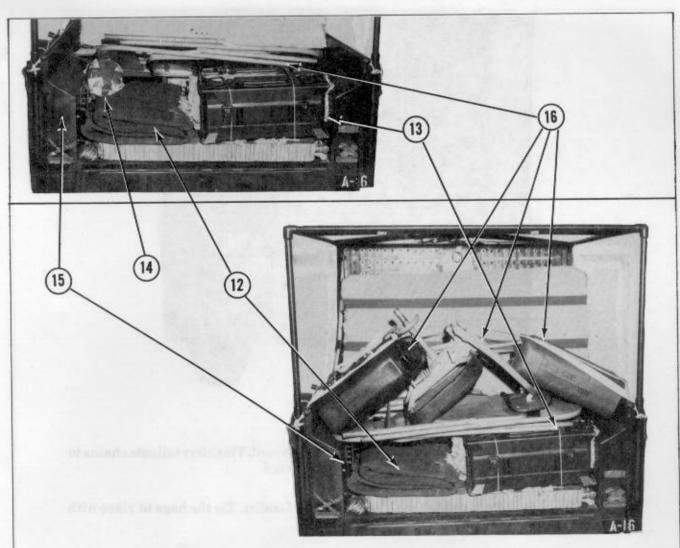


Figure 5-4. Preparing trailer (continued).



- Place peg counter, screwdriver, extra test cards, shoe tags, and two headsets (padded with seat cushions) on the storage desk, and tape them in place. Place PP-990 and power connector covers on the honeycomb with the storage desk placed on top of covers (not shown).
- (12) Place folded awning cover and designator strips in the rear of the trailer.
- Tie the PP-990 batteries together with type III nylon cord. Pad them with cellulose wadding, and place them in the rear of the trailer.
- (14) Pad and tape operational lights and place them in the rear of the trailer.
- (15) Secure gas adapter (used with heater) in its bracket (not shown in illustration).
- Place the two folding chairs, the swivel chair, one water can, and one gas can in the rear of the trailer on top of the other equipment. Run a 15-foot tiedown strap around the third paulin hooks at the top of the trailer side walls, then bind the ends with a D-ring and load binder.

Figure 5-4. Preparing trailer (continued).

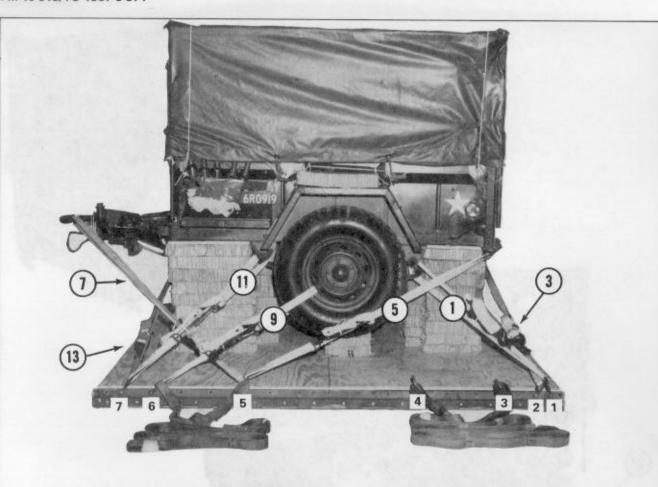


- Close the tailgate and tie it with type III nylon cord. Tie safety tailgate chains to the rear lifting shackles with type III nylon cord.
- Place operators' dufflebags (three) in rear of trailer. Tie the bags in place with type III nylon cord.

Figure 5-4. Preparing trailer (continued).



Figure 5-4. Preparing trailer (continued).



Lashing No.	Clevis No.	Instructions
1	1	Through left rear spring bracket
2	1A	Through right rear spring bracket
3	2	Through right rear lifting shackle
4	2A	Through left rear lifting shackle
5	5	Through left rear lifting shackle
6	5A	Through right rear lifting shackle
7	5	Through lunette
8	5A	Through lunette
9	6	Through left wheel
10	6A	Through right wheel
11	and donn'to not indicate	Through left front spring bracket
12	7A	Through right front spring bracket
13	dilly soal 7 all stateben .	Through right front lifting shackle
14	7A	Through left front lifting shackle

Figure 5-5. Lashings installed.

#### 5-5. Positioning Trailer

Position the trailer on the honeycomb stacks with the rear of the trailer 12 inches from the front edge of the platform. Raise and lock the support leg. Tie it in place with type II nylon cord.

#### 5-6. Installing Lashings

Use figure 5-5 as a guide, and lash the trailer to the platform.

## 5-7. Stowing Cargo Parachute

- a. Build a parachute stowage platform as shown in figure 5-6.
- b. Install the parachute stowage platform as shown in figure 5-7.
- c. Prepare and stow one G-11A or G-11B cargo parachute as outlined in FM 10-500/TO 13C7-1-5.

#### 5-8. Installing Extraction System

The extraction force transfer coupling (platform) (PEFTC) and the static line/connector strap (SL/CS) extraction system are authorized for use when this load is rigged. When the SL/CS system is used and the load is platform extracted, this system requires, in addition to the normal SL/CS items, two load tiedown clevises and two 9-foot (3-loop) slings which are bolted to the last clevis hole in each rail. FM 10-500/TO 13C7-1-5 gives procedures for installing both systems. Only the PEFTC is shown in this chapter. See figure 5-8 for details.

#### 5-9. Safetying Suspension Slings

Safety the suspension slings as outlined in FM 10-500/TO 13C7-1-5. (Also see figure 5-8.)

#### 5-10. Installing Release System

Prepare, attach, and safety an M-1 cargo parachute release according to FM 10-500/TO 13C7-1-5 and as shown in figure 5-9. If the M-1 release is not available, use one 5,000-pound-capacity cargo parachute release.

Note: Only the M-1 release is authorized for use with the G-11B. Prepare, attach, and safety the 5,000-pound release as outlined in FM 10-500/TO 13C7-1-5.

# 5-11. Positioning Extraction Parachute

- a. C-130 Aircraft. Place an unreefed 15-foot cargo extraction parachute on the load for installation in the aircraft.
- b. C-141A Aircraft. Place a reefed 15-foot cargo extraction parachute on the load for installation in the aircraft. The extraction parachute must be equipped with a 120-foot (1-loop) type X nylon extraction line. Form the 120-foot extraction line as outlined in FM 10-500/TO 13C7-1-5.
- c. C-141B Aircraft. Place a reefed 15-foot cargo extraction parachute, a 36-inch adapter web, and a continuous 160-foot (1-loop) type XXVI nylon webbing extraction line on the aircraft. DO NOT use shorter lines to form the 160-foot line.

### 5-12. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5 and as shown in figure 5-9.

#### 5-13. Equipment Required

The equipment listed in table 2-1 is used to rig this load.

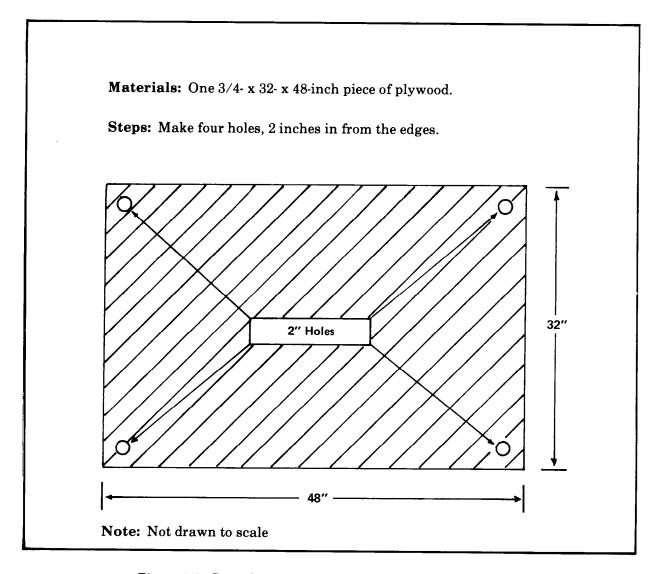
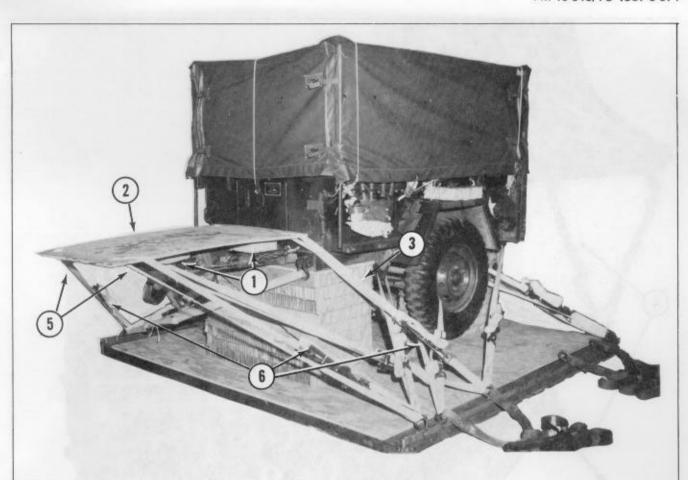
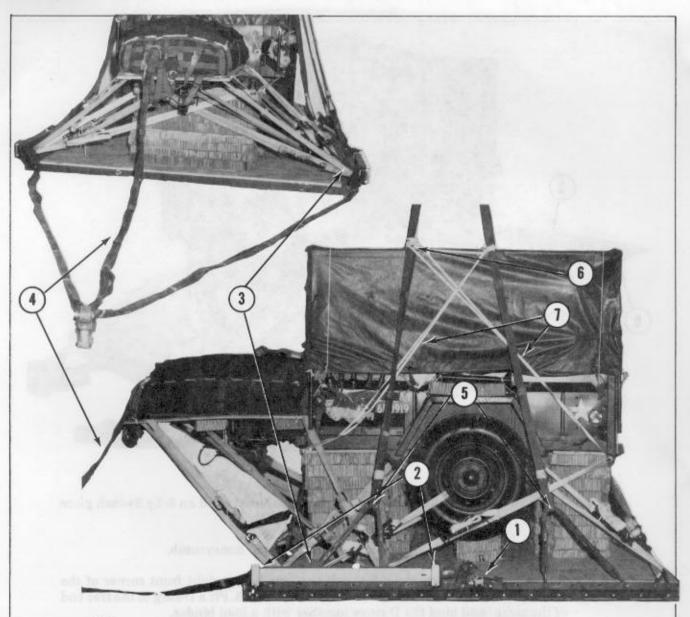


Figure 5-6. Parachute stowage platform, construction details.



- Place a 6- by 6-inch piece of honeycomb on the lunette and an 8- by 24-inch piece of honeycomb across the drawbars.
- 2 Place the plywood platform on top of the pieces of honeycomb.
- Run a 15-foot tiedown strap through the hole in the right front corner of the stowage platform and through load tiedown clevis 5. Fit a D-ring to the free end of the strap, and bind the D-rings together with a load binder.
- Run a second strap through the left front hole and clevis 5A as in 3 above (not shown).
- (5) Run two more straps through the rear holes and clevis 7 and 7A as in 3 above.
- 6 Pull each strap taut and close each binder. Fold the excess strap and tie the folds to the binder with 80-pound cotton webbing.

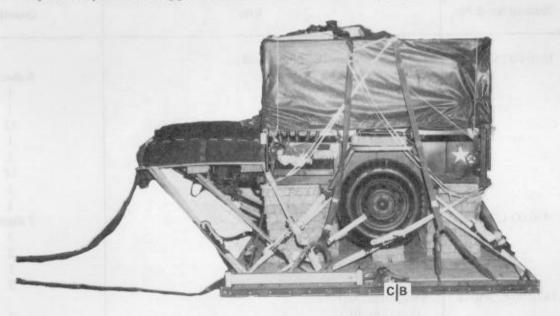
Figure 5-7. Stowage platform secured.



- 1 Bolt a PEFTC actuator to the 8th and 9th clevis holes in each rail.
- (2) Bolt a guidance tube bracket to the 10th and 17th clevis holes in each rail.
- (3) Bolt four guidance tubes to their brackets.
- 4 Use a 16-foot (3-loop) sling as the deployment line.
- (5) Extend the slings and tape the 12-foot slings to the 3-foot slings.
- 6 Safety the slings with a deadman tie as outlined in FM 10-500/TO 13C7-1-5.
- 7 Tie each set of slings to the trailer with lengths of doubled 1/2-inch tubular nylon webbing.

Figure 5-8. PEFTC installed and slings safetied.

Caution: The rigged load MUST be given a complete final inspection by a qualified parachute rigger before the load leaves the rigging site.



Weight	2,580 pounds
Height	
Center of Balance (from front edge of platf	form)

Figure 5-9. Rigged load.

Table 5-1. Equipment required for rigging trailer with AN/MTC-10 telephone control office group.

National Stock No.	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating honeycomb,	
•	3- by 36- by 96-in:	8 sheets
	6- by 6-in	1
	6- by 18-in	1
	8- by 12-in	12
i	8- by 24-in	1
	24- by 36-in	1
	24- by 41-in	18
	24- by 48-in	1
	28- by 36-in	1
5530-00-128-4981	Plywood, 3/4-in:	3 sheets
	8- by 12-in	2
	24- by 41-in	2
	32- by 48-in	1
	48- by 48-in	2
1670-00-823-5041	Sling, cargo, A/D	
	12-ft (3-loop)	4
1670-00-937-0271	Tiedown Assembly, 10,000-lb	16
	Binder, load	(16)
	D-ring, 10,000-lb	(16)
	Strap, 15-ft	

#### **CHAPTER 6**

# RIGGING TRAILER WITH AN/MGC-34 TELETYPEWRITER

# 6-1. Description of Load

The M416 trailer with the AN/MGC-34 teletype-writers is rigged on an 8-foot modular platform. The load requires either one G-11A or one G-11B cargo parachute. The trailer, with the teletype-writers, weighs 1,660 pounds. It is 111 inches long, 59 inches wide, and 80 inches high (reducible to 68 inches).

# 6-2. Preparing Platform and Installing Suspension Slings

Prepare an 8-foot modular platform the same as in

paragraph 5-1.

# 6-3. Preparing and Positioning Honeycomb Stacks

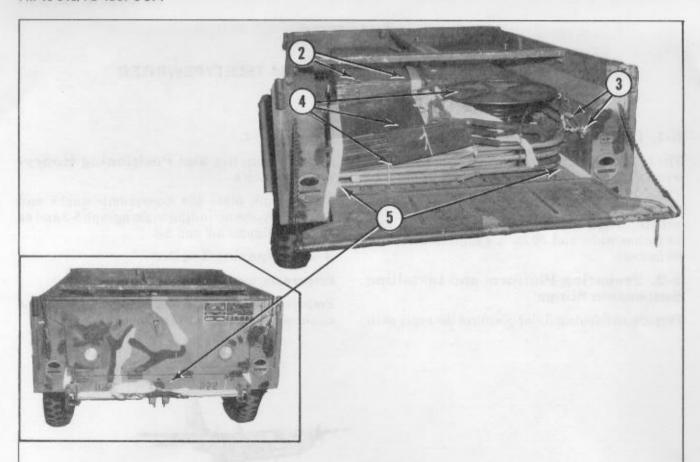
Prepare and place the honeycomb stacks and trailer supports according to paragraph 5-3 and as shown in figures 5-2 and 5-3.

## 6-4. Preparing Trailer

Prepare the load as follows:

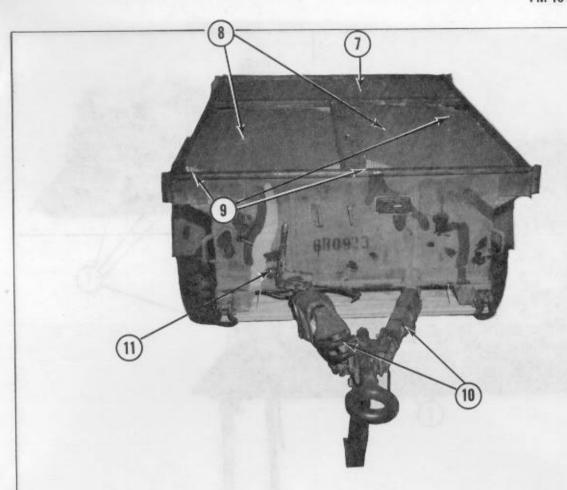
Prepare the trailer and teletypewriter equipment as shown in figures 6-1 through 6-4.





- Remove the three teletypewriters and equipment from the trailer and place a 15-foot tiedown strap lengthwise on the floor of the trailer with the D-ring end facing forward.
- Place the three footlockers with the lighting equipment, plugs, wiring manuals, toolkit, and first aid kit on the tiedown strap. Pad all items in the lockers with cellulose wadding. Bind the tiedown strap around the footlocker with a load binder and D-ring. Note: Leave 1-inch clearance between the front of the footlockers and the forward wall of the trailer.
- Place grounding rods in the brackets on the inside of the right trailer wall and tie them with type III nylon cord.
- Place the folding chairs, crypto tables, AC power cord, and the rear support leg in the trailer. Pad both ends of the power cord with cellulose wadding.
- 5 Form a 30-foot tiedown strap and run the strap around the front of the forward footlocker and through the chairs. Run the ends of the tiedown strap through the tailgate on the outside edge of the hinges and under both left and right lifting shackle mounting brackets. Bind the ends with a load binder and two D-rings.

Figure 6-1. Preparing trailer.



- Place a 12- by 49-inch piece of honeycomb against the right inside wall and one against the left inside wall. Place an 18- by 18-inch piece of honeycomb on top of the crypto tables (not shown).
- Place a 23- by 49-inch piece of honeycomb across the rear of the trailer between tailgate and crossmember brace.
- Place a 23- by 47-inch piece of honeycomb on each side of the trailer directly on the top of the footlockers.
- 9 Make a 4-inch triangular cutout at each corner of the honeycomb pieces.
- (10) Tie and tape the safety chains and intervehicular cable to the drawbar.
- (11) Make sure that the handbrake is in the OFF position.

Figure 6-1. Preparing trailer (continued).



Figure 6-2. Preparing teletypewriter equipment.

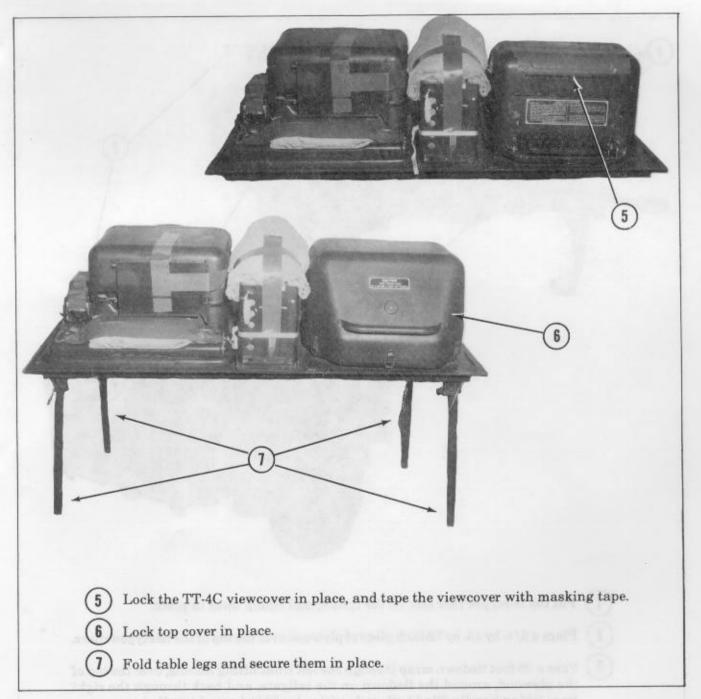


Figure 6-2. Preparing teletypewriter equipment (continued).

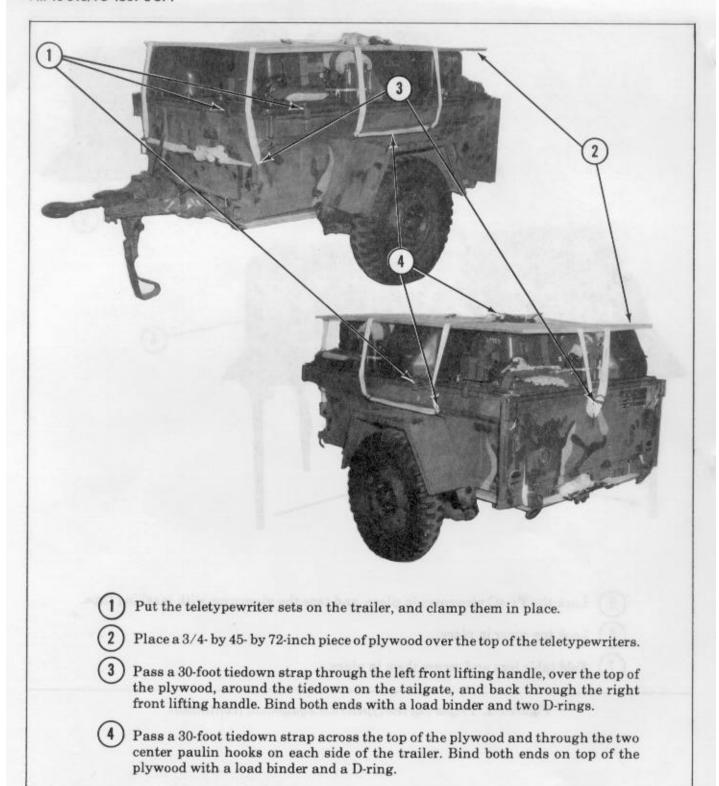


Figure 6-3. Teletypewriters positioned and secured.

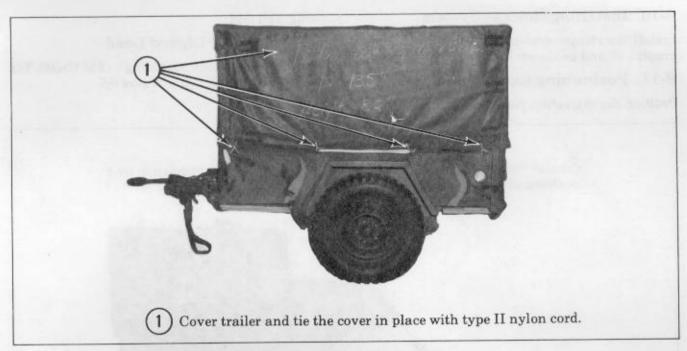


Figure 6-4. Trailer prepared.

# 6-5. Positioning Trailer

Position the trailer on the honeycomb stacks as described in paragraph 5-5.

# 6-6. Installing Lashings

Lash the trailer to the platform as shown in figure 5-5.

# 6-7. Stowing Cargo Parachute

Stow the cargo parachute as described in paragraph 5-7 and as shown in figure 5-6.

# 6-8. Installing Extraction System

Install the extraction system as described in paragraph 5-8 and shown in figure 5-8.

# 6-9. Safetying Suspension Slings

Safety the suspension slings as outlined in FM 10-500/TO 13C7-1-5. (Also see figure 5-8.)

# 6-10. Installing Release System

Install the release system as described in paragraph 5-10 and as shown in figure 5-9.

# 6-11. Positioning Extraction Parachute

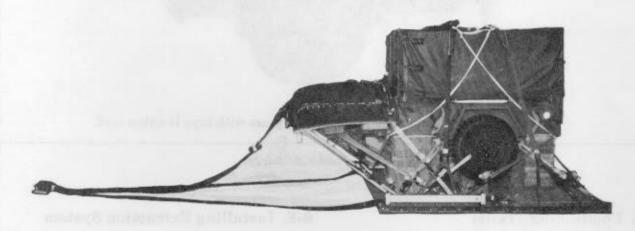
Position the extraction parachute as described in

paragraph 5-11.

## 6-12. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5 and as shown in figure 6-5.

Caution: The rigged load MUST be given a complete final inspection by a qualified parachute rigger before the load leaves the rigging site.



Weight.	2.950 pounds
Height,	82 inches
Width	108 inches
Length	132 inches
Overhang: Rear	
Center of Balance (from front edge of platform)	52 inches
Extraction System (shown)	PEFTC

Figure 6-5. Rigged load.

# 6-13. Equipment Required

Use the equipment listed in tables 2-1 and 6-1 to rig this load.

Table 6-1. Equipment required for rigging trailer with AN/MGC-34 teletypewriter.

National Stock No.	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in: 12- by 49-in 18- by 18-in	8 sheets (2) (1) (1)
5530-00-128-4981	23- by 49-in 23- by 47-in Plywood, 3/4-in: 24- by 41-in	(2) 2 sheets (4) (1)
1670-00-937-0271 1670-00-937-0272 5365-00-937-0147 1670-00-937-0273	45- by 72-in Tiedown Assembly, 10,000-lb Binder, load D-ring, 10,000-lb Strap, 15-ft	23 23 23 23 23

#### **APPENDIX**

#### REFERENCES

AFR 71-4/TM 38-250

Packaging and Materials Handling: Preparation of

Hazardous Materials for Military Air Shipment

FM 10-500/TO 13C7-1-5

Airdrop of Supplies and Equipment: General Informa-

tion for Rigging Airdrop Platforms

FM 10-553/TO 13C7-18-41

Airdrop of Supplies and Equipment: Rigging Ammuni-

tion

TM 9-2330-201-14

Operator's, Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List): Trailer, Cargo, Amphibious: 1/4-Ton, 2-Wheel, M100 (FSN 2330-732-8227): Trailer, Chassis: M115 (2330-835-8590) and Trailer, Maintenance: Telephone Cable Splicer, M367 (2330-

215-4211)

TM 9-2330-251-14

Operator's, Organizational, Direct Support and General Maintenance Manual, (Including Repair Parts and Special Tools Lists): Trailer, Cargo, 1/4-Ton, 2-Wheel, M416 (NSN 2330-00-706-5495), M416B1 (2330-00-017-9589): Trailer, Chassis, 1/4-Ton, 2-Wheel, M569 (2330-884-4817), M569B1 (2330-00-226-5649): 3/4-Ton, 2-Wheel, M762 (2330-00-933-7462) and Trailer, Cable Splicer: 1/4-

Ton, 2-Wheel, Ml716 (2330-00-782-6062)

TM 10-1670-208-20&P/TO 13C3-4-12 Organizational Maintenance Manual (Including Repair Parts and Special Tools List) for Platforms, Type II

Modular and LAPES/Airdrop Modular

### FM 10-518/TO 13C7-3-371

#### **29 JANUARY 1982**

By Order of the Secretaries of the Army and the Air Force:

E. C. MEYER General, United States Army Chief of Staff

Official:

ROBERT M. JOYCE Brigadier General, United States Army The Adjutant General

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